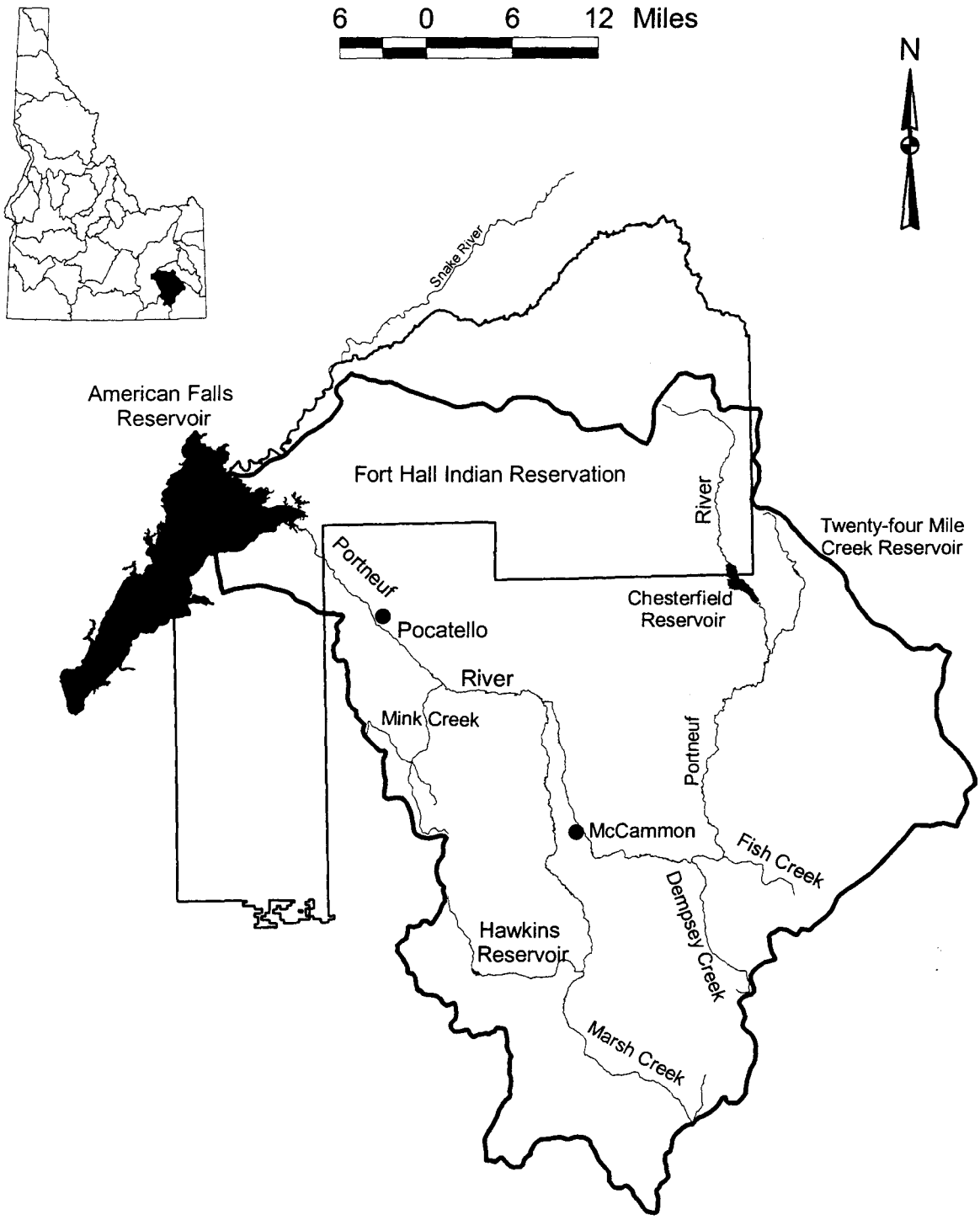
# Portneuf River Drainage





# PORTNEUF RIVER DRAINAGE

## A. Overview

The Portneuf River and tributaries total 297 miles of stream, and drain nearly 1,300 square miles. In addition, there are four irrigation storage reservoirs in the drainage covering 1,704 acres.

The Portneuf River headwaters upstream from Chesterfield Reservoir are on the Fort Hall Indian Reservation and flows into American Falls Reservoir. The upper end of Chesterfield Reservoir is on the reservation. The Portneuf River flows into American Falls Reservoir. From this confluence upriver to Siphon Road the Portneuf River is on the Fort Hall Reservation. The Shoshone-Bannock Tribes manage reaches of the river and reservoir on this reservation. From American Falls Reservoir upstream to Pocatello the river receives considerable spring water and has desirable water temperature for trout. The reach from Pocatello upstream to Marsh Creek contains very few trout, receives very little fishing pressure, and is severely impacted by sediment, irrigation withdrawals, damaged stream banks and high water temperatures. Additionally, the Portneuf River, where it floiws through Pocatello, was channelized and directed through a flat-bottom, vertical sided cement flume that is a barrier to upstream movement. From the confluence of Marsh Creek upstream to the Portneuf/Marsh Valley Canal diversion, silt is less of a problem, but low flows caused by irrigation diversions adversely affect the populations of feral brown trout, the main game species in this area. Much of the sediment in the lower Portneuf River comes from Marsh Creek.

Conditions improve upriver from the Portneuf/Marsh Valley diversion since very little water is diverted upriver from here. Also, during summer water is added to this reach from Chesterfield Reservoir for diversion approximately 20 miles downriver at the Portneuf/Marsh Valley Canal. From the Portneuf/Marsh Valley Canal upstream to Lava Hot Spring, a distance of approximately four miles, the main problem for fish is severe bank erosion caused by livestock and exacerbated by bankfull flows during the summer growing season. This area contains a mixture of hatchery and natural rainbow trout, brown trout, and cutthroat trout. The 16 miles from Lava Hot Springs upstream to Kelly-Toponce Road Bridge once supported an excellent feral rainbow trout population and was a very popular fishery. An estimated 7,000 anglers fished 17,300 hours and caught 3,000 wild rainbow trout, 4,200 hatchery rainbow trout, and 900 cutthroat trout in this area during 1979. Sampling in this area indicates the trout population was composed of 69% wild rainbow trout, 19% hatchery rainbow trout, and 12% cutthroat trout.

Harvest of wild trout on the river declined in the late 1980s to a few hundred fish annually and was so low that restrictive regulations would not have been effective. The Department, angler groups, the Natural Resource Conservation Service and landowners began a cooperative effort to correct sediment problems in the Portneuf-Marsh Valley Canal Company's "outlet canal," the channelized reach below Chesterfield Reservoir. This reach was identified as contributing most heavily to sediment in the river below.

This 10-mile reach upstream from the Kelly-Toponce Road bridge to Chesterfield Reservoir had been extensively damaged by stream channel alterations and contained few trout. From Chesterfield Reservoir upstream, the river has a base flow less than 10 cfs and has significant beaver activity.

In the 1996-2000 period reduction in sediment occurred due to the following projects:

1. Improvement of existing riparian corridor fences.

2. Construction of additional corridor fences.

3. Development of a DEQ/Soil Conservation District project to exclude live stock from and revegetate the outlet canal.

4. Development of a Portneuf-Marsh Valley Canal Company, Idaho Department of Water, Resources and Department project to construct grade control structures in the outlet canal.

Major tributaries to the Portneuf River include Mink, Marsh, Rapid, Dempsey, Pebble, and Toponce creeks. They may serve as spawning areas for trout from the Portneuf River and nursery areas for fluvial trout. However, trout movement and the importance of these tributaries to the river is unknown.

Four irrigation reservoirs are located in this drainage: Hawkins, Wiregrass, Chesterfield, and Twentyfour Mile. The lack of suitable spawning areas and annual irrigation drawdown precludes the development of wild trout fisheries in these waters. The return of Utah chub to Chesterfield Reservoir in the mid 1990s has limited management options to stocking of catchable size trout. Trout grow rapidly and a high percentage is caught the first season. Carryover occurs when water levels are favorable, and fish are caught at much larger size (two to four pounds) in succeeding years. Chesterfield Reservoir was last renovated in 1992 after it was mostly drained for irrigation by June 20.

Five years ago the Department was optimistic that the Highway Pond near Pocatello was soon to become a perennial urban fishery. However, two things have happened since then to indicate there is very little likelihood this will happen. First, the water table has dropped much lower than anticipated. Second, water pollution in the aquifer has led to a recommendation to fill in the Highway Pond pit to prevent possible pollution at this location. Currently water level in the highway pond is too low to consider even a temporary fishery.

B. Objectives and Programs

1. Objective: Improve water quality and trout habitat in Portneuf River from Pocatello upriver to Lava Hot Springs, including Marsh Creek.

   Program: Seek participants in NRCS Continuous Signup Conservation Reserve Program. Participate in the Portneuf River Watershed Council.

2. Objective: Improve conditions for wild trout in the Portneuf River from Lava Hot Springs to Chesterfield Reservoir.

   Program: Maintain existing riparian corridor fences on private land. Seek additional riparian fencing projects on the river and tributaries. Obtain renewed 10-year access and fence maintenance agreement with King Creek Grazing Association.

   Program: Reduce the number of hatchery trout stocked.

   Program: Seek funding for a full-time technician and seasonal aide to maintain riparian corridor fences, seek new fencing projects on private land in coordination with other natural resource agencies and solicit grants for fencing projects.

Drainage: PORTNEUF RIVER

| Water | Miles/acre | Fishery | | | Management Direction |
|---|---|---|---|---|---|
| | | Type | Species Present | Management | |
| Portneuf River from American Falls Reservoir to Marsh Creek, including Marsh Creek upstream from the Ft Hall Reservation | 12/ | Coldwater | Rainbow trout<br>Brown trout<br>Cutthroat trout | General<br><br>Quality | Stock catchable size rainbow trout in the Edson Fichter area upstream of Pocatello. Pursue better water quality and quantity management. |
| Portneuf River from Marsh Creek to Marsh Valley Canal diversion | 20/ | Coldwater | Brown trout<br>Rainbow trout<br>Cutthroat trout | General<br><br>Quality | Stock catchable rainbow trout. |
| Marsh Creek | 40 | Coldwater | Cutthroat trout<br>Brown trout<br>Rainbow trout | Wild trout<br>General<br>Put-and-take | Work with landowners to improve habitat. Seek better irrigation return flow quality through NRCS projects. |
| Hawkins Reservoir | /54 | Coldwater | Rainbow trout | Put-and- grow trout | Stock catchable size rainbow trout in early spring. Water supply is often insufficient for fish survival. |
| Wiregrass Reservoir | /6 | Coldwater | Rainbow trout | Put-and-take trout | Stock catchables in early spring. |
| Portneuf River from Marsh Valley Canal to Lava Hot Springs | 7/ | Coldwater | Rainbow trout<br>Brown trout<br><br>Cutthroat trout | Put-and-take trout<br>General<br><br>Quality | Work on access permits with Lava Chamber of Commerce and landowners. Limit hatchery zone to upper three miles near Lava. Improve riparian habitat. |
| Portneuf River from Lava Hot Springs to Broxon Road | 6/ | Coldwater | Rainbow trout<br>Brown trout<br>Cutthroat trout | Put-and-take trout<br><br>Quality | Seek public access from landowners. |
| Portneuf River from Broxon Road to Kelly Road Bridge | 8/ | Coldwater | Rainbow trout<br>Cutthroat trout | Quality<br>Wild trout | Reduce sediment problems via upstream habitat improvement in canal and tributaries. Consider quality trout regulations if water quality and substrate habitat improve. Maintain riparian corridor fences and access agreements with landowners. |
| Portneuf River from Kelly Road Bridge to Chesterfield Reservoir | 9/ | Coldwater | Rainbow trout<br>Cutthroat trout | General<br>Quality | Monitor habitat improvement and fish population after canal and stream bank improvements mature. |
| Chesterfield Reservoir | /1,600 | Coldwater | Cutthroat trout<br>Rainbow trout<br>Rainbow trout x cutthroat trout hybrids<br>Brown trout | General | Stock catchable size rainbow trout due to competition with fingerling trout by Utah chubs. Department will work with the Shoshone-Bannock Tribes to modify stocking when the tribes produce Yellowstone cutthroat trout for stocking. |
| Portneuf River above Chesterfield Reservoir | | Coldwater | Cutthroat trout | | |

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| Pebble Creek | 10/ | Coldwater | Cutthroat trout<br>Rainbow trout | Wild trout<br>Put-and-take trout | Seek habitat improvement project opportunities. |
| Toponce Creek | 12/ | Coldwater | Cutthroat trout<br>Rainbow trout | Wild trout<br>Put-and-take trout | . |
| 24-Mile Reservoir | /44 | Coldwater | Rainbow trout x cutthroat trout hybrid<br>Rainbow trout | Trophy | Maintain moderate stocking rate. Stock with fingerling cutthroat trout and rainbow trout. |